

Application No.: 10/500776  
Docket No.: CL1927USPCT

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Amendments to Specification

Please amend the specification as follows.

Replace the paragraph at page 6, lines 18-33, with the following:

This invention provides a process for manufacturing catalyst coated membranes that employs, for example, flexographic or pad, screen printing technology, etc., for applying an electrocatalyst coating composition onto an element comprising a membrane, having first and second surfaces, and a first dimensionally stable, temporary substrate. The coating is applied to the first surface of the membrane. After drying to form a first electrode on the membrane, a second dimensionally stable, temporary substrate is applied to the dried first electrode. The first dimensionally stable, temporary substrate is then removed. This is followed by the application of an electrocatalyst coating composition onto the second surface of the membrane, and drying to form a sandwich comprising first and second electrodes on both sides of the polymer membrane, wherein the first electrode is protected with the second dimensionally stable, temporary substrate. This substrate may be then be removed to form a catalyst coated membrane that is useful in making fuel cells.

Replace the paragraph at page 15, lines 1-25, with the following:

Additional printing stations (not shown) and drying stations (not shown) may be present to apply additional electrocatalyst coating compositions to the element 10. The sandwich comprising the first dimensionally stable substrate 11, the membrane 12 with first electrode 14 formed thereon is led past an application device, such as a low pressure laminator 17 having rolls 17' and 17", to apply the second dimensionally stable substrate 15 such that the second dimensionally stable substrate 15 is adjacent first electrode 14. Alternately the second dimensionally stable substrate may be applied by pressing onto the first electrode 14. The first dimensionally stable substrate 11, is then removed from surface 12" of membrane 12, for example, by peeling manually or automatically using equipment to remove the first dimensionally stable substrate 11. Electrocatalyst coating composition 20' is applied to surface 12" of the membrane using at least one printing station 13', and is then led past drying station 16' to form a second electrode 14' on the membrane 12. Additional printing stations (not shown) and drying stations (not shown) may be present to apply additional electrocatalyst coating compositions to so formed second electrode 14'. Typically electrocatalyst coating composition 20' is applied such that after drying the second electrode 14' is in registration with first electrode 14. The so formed catalyst coated membrane comprising the membrane 12 sandwiched between first and second electrodes 14 and 14' is still protected on the side of the first electrode 14 with second dimensionally stable substrate 15. This second dimensionally stable substrate 15 may be peeled off to form a catalyst-coated membrane that is useful in making fuel cells.